# Service Schematics

# NOKIA 6125

## Introduction

IMPORTANT:

This document is intended for use by authorized NOKIA service centers only.

"Service Schematics" was created with focus on customer care.
The purpose of this document is to provide further technical repair information for NOKIA mobile phones on Level 3/4 service activities.
It contains additional information such as e.g. "Component finder", "Frequency band table" or "Antenna switch table".
The "Signal overview" page gives a good and fast overview about the most important signals and voltages on board.
Saving process time and improving the repair quality is the aim of this document.
It is to be used additionally to the service manual and other training or service information such as Service Bulletins.

All measurements were made using following equipment:

| | |
|---|---|
| Nokia repair SW | : Phoenix version 2005.44.4.120 |
| Oscilloscope | : Fluke PM 3380A/B |
| Spectrum Analyzer | : Advantest R3162 with an analog probe |
| RF-Generator / GSM Tester | : Rhode & Schwarz CMU 200 |
| Multimeter | : Fluke 73 Series II |

While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If the reader finds any errors, NOKIA shall be notified in writing.

Please send E-Mail to: training.sace@nokia.com

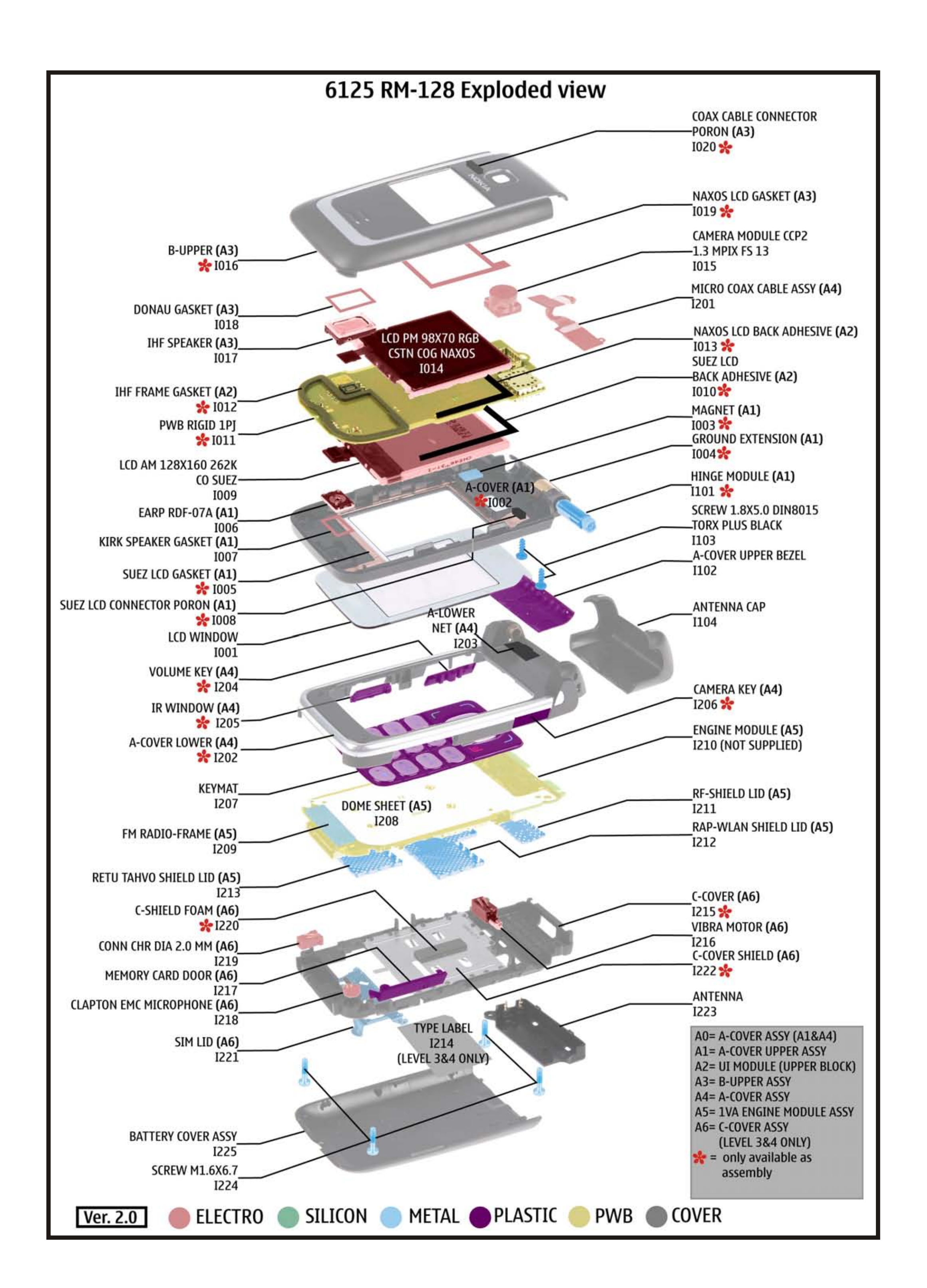


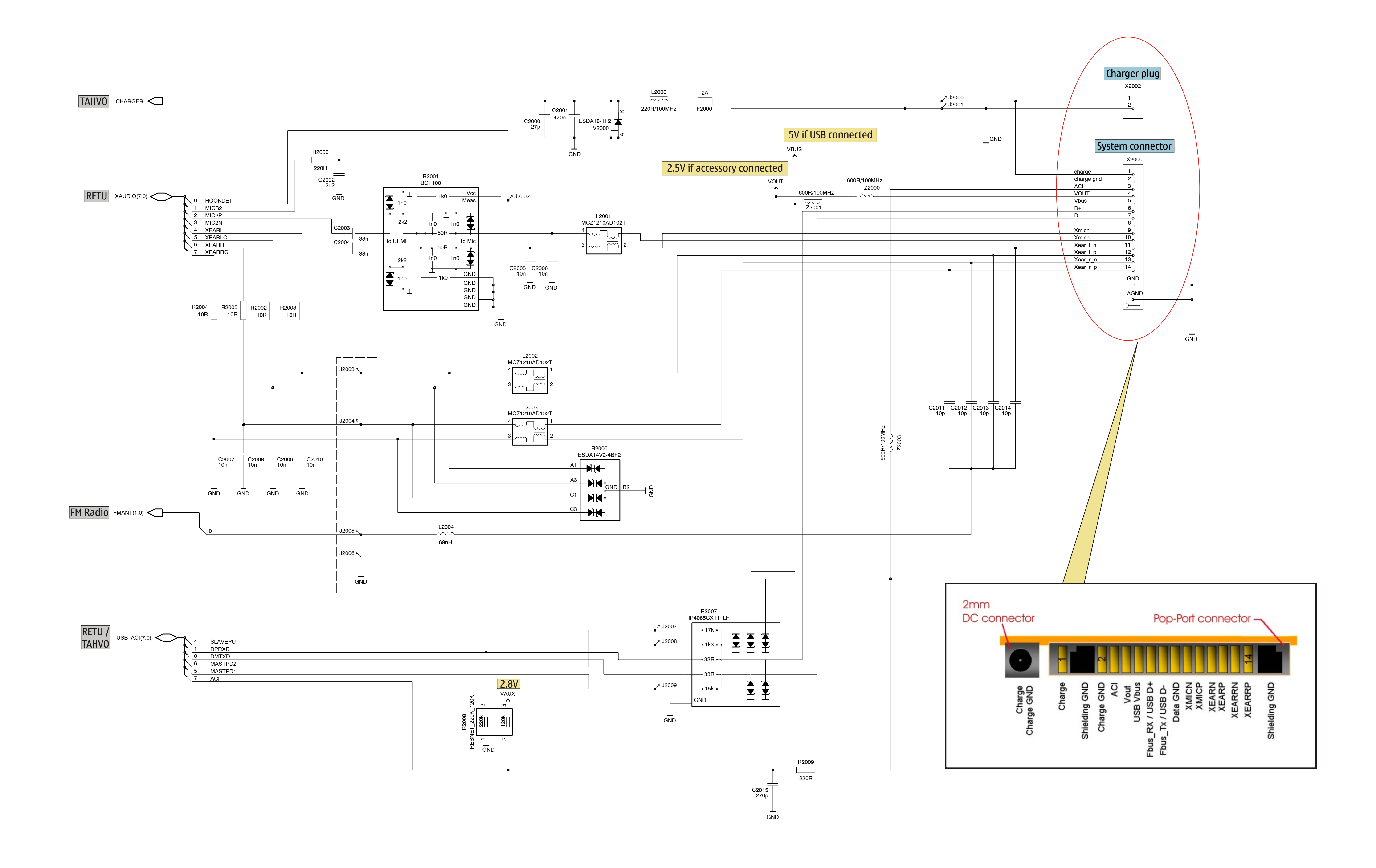



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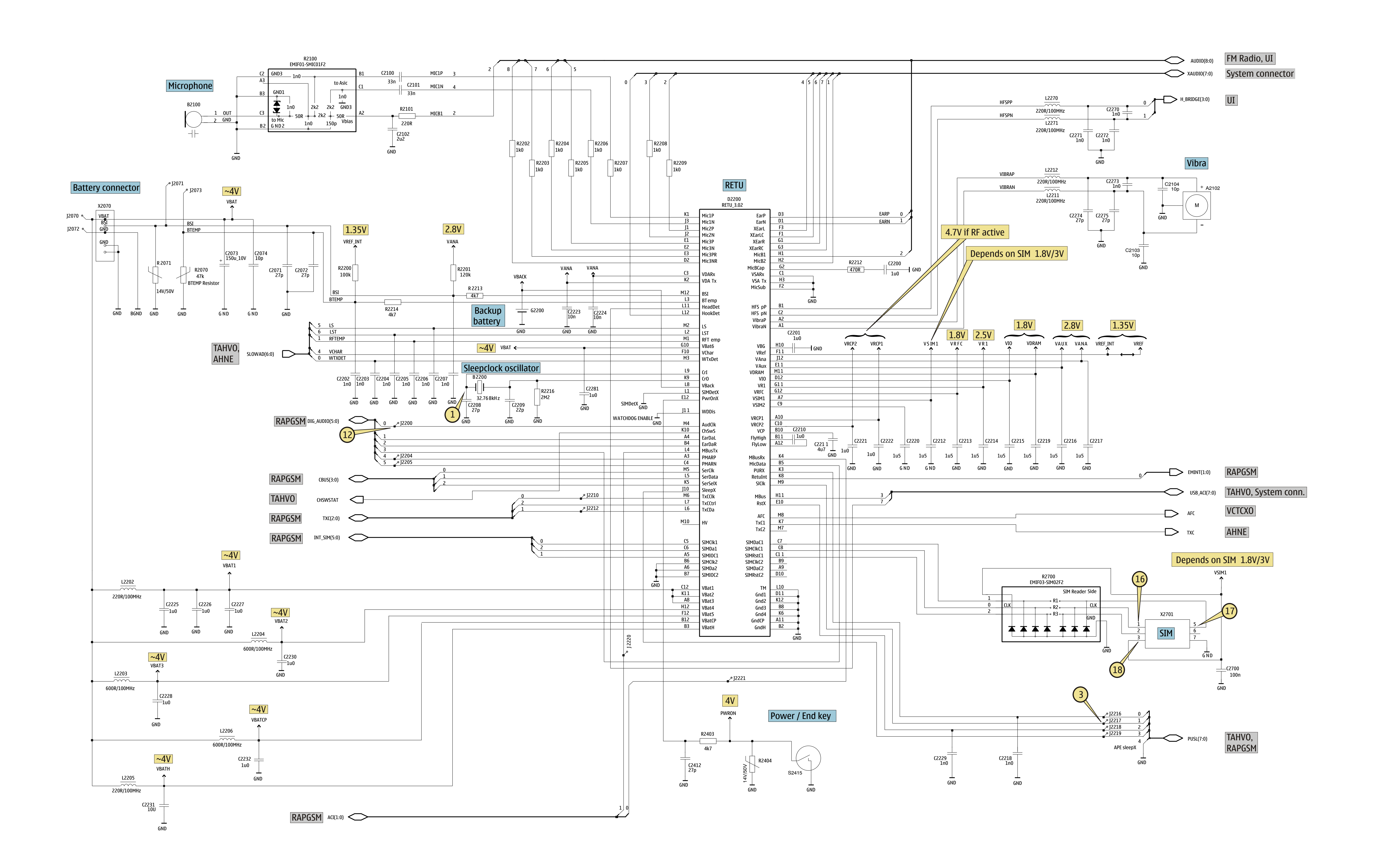


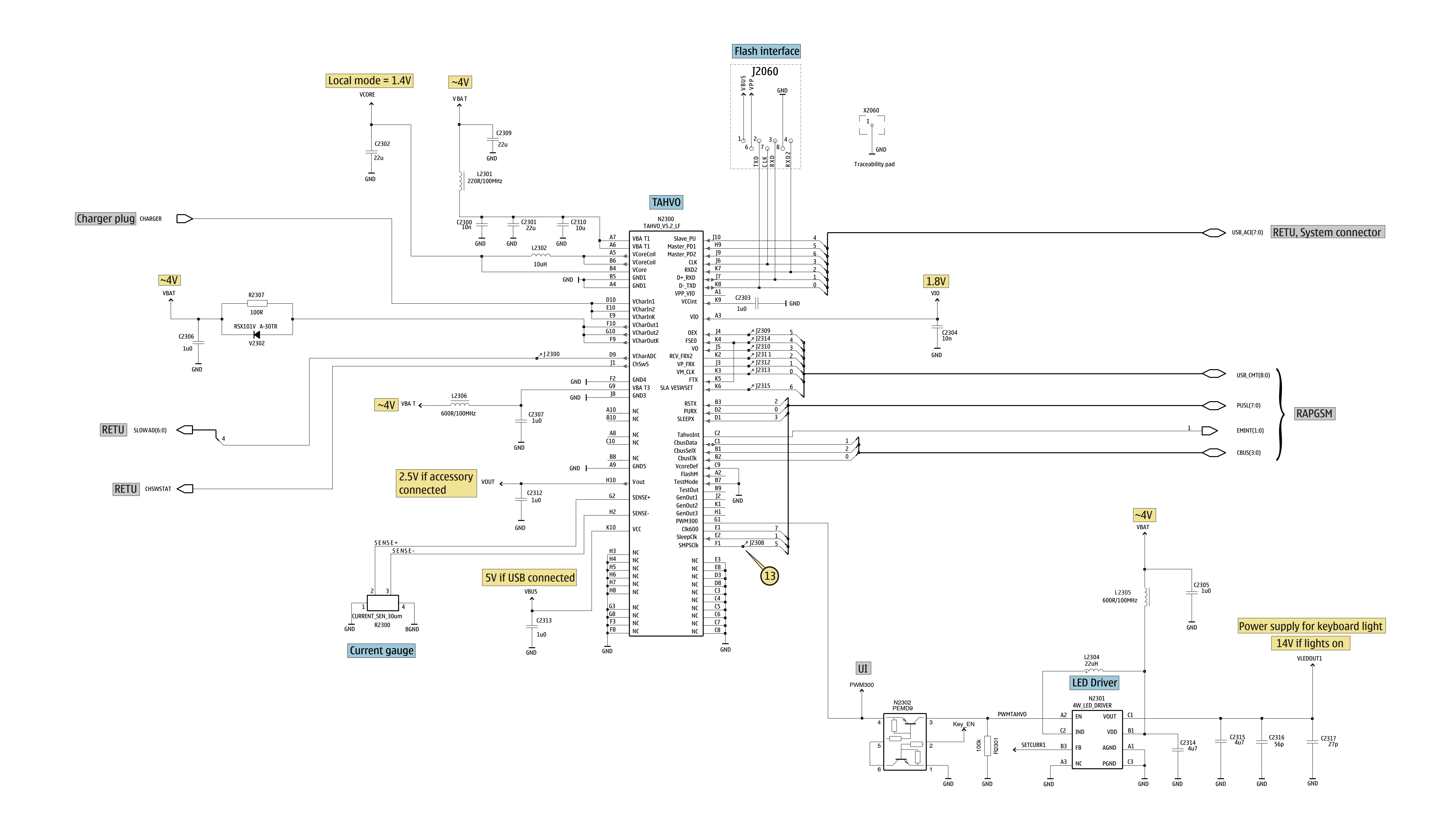
## Exploded view and component disposal



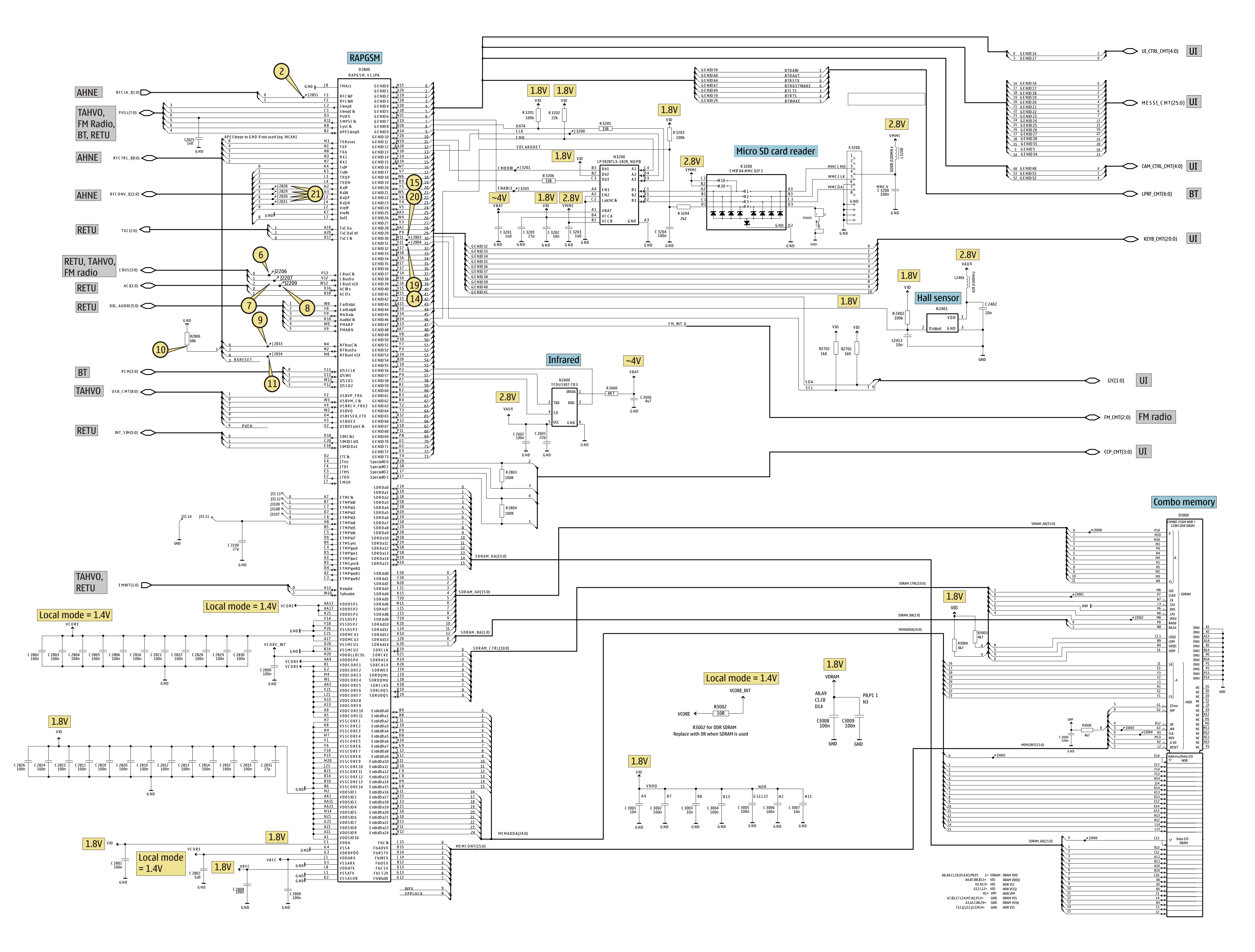


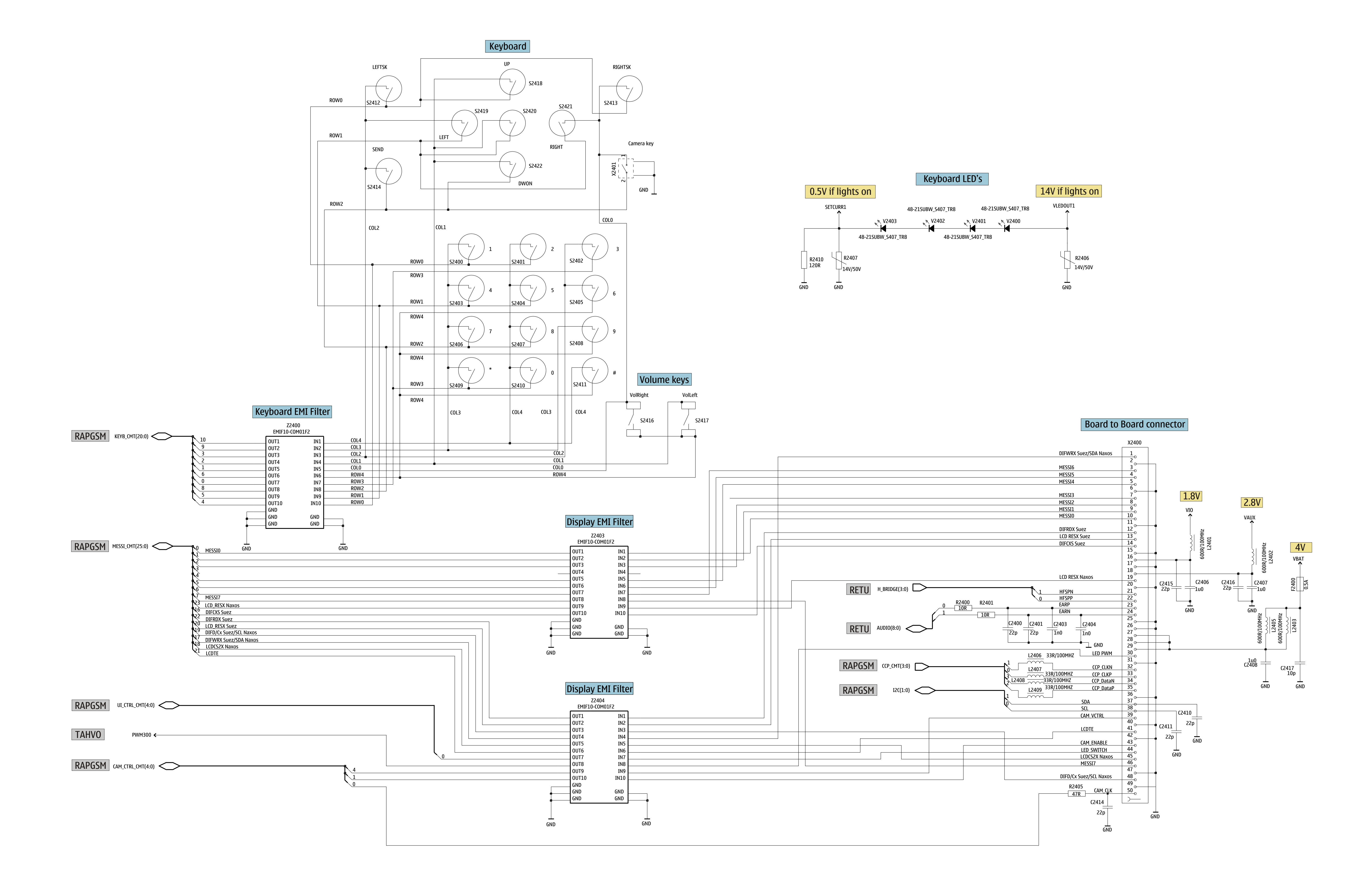
TAHVO
CHARGER
RETU
XAUDIO(7:0)
HOOKDET
MICB2
MIC2P
MIC2N
XEARL
XEARLC
XEARR
XEARRC
FM Radio
FMANT(1:0)
RETU / TAHVO
USB_ACI(7:0)
SLAVEPU
DPRXD
DMTXD
MASTPD2
MASTPD1
ACI
Charger plug
X2002
System connector
X2000
charge
charge gnd
ACI
VOUT
Vbus
D+
D-
Xmicn
Xmicp
Xear_l_n
Xear_l_p
Xear_r_n
Xear_r_p
GND
AGND
5V if USB connected
VBUS
2.5V if accessory connected
VOUT
2.8V
VAUX
L2000
220R/100MHz
2A
F2000
ESDA18-1F2
V2000
R2001
BGF100
to UEME
to Mic
L2001
MCZ1210AD102T
L2002
MCZ1210AD102T
L2003
MCZ1210AD102T
R2006
ESDA14V2-4BF2
R2007
IP4065CX11_LF
R2008
RESNET_220K_120K
L2004
68nH
R2009
220R
C2015
270p
2mm
DC connector
Pop-Port connector
Charge
Charge GND
Charge
Shielding GND
Charge GND
ACI
Vout
USB Vbus
Fbus_RX / USB D+
Fbus_Tx / USB D-
Data GND
XMICN
XMICP
XEARN
XEARP
XEARRN
XEARRP
Shielding GND

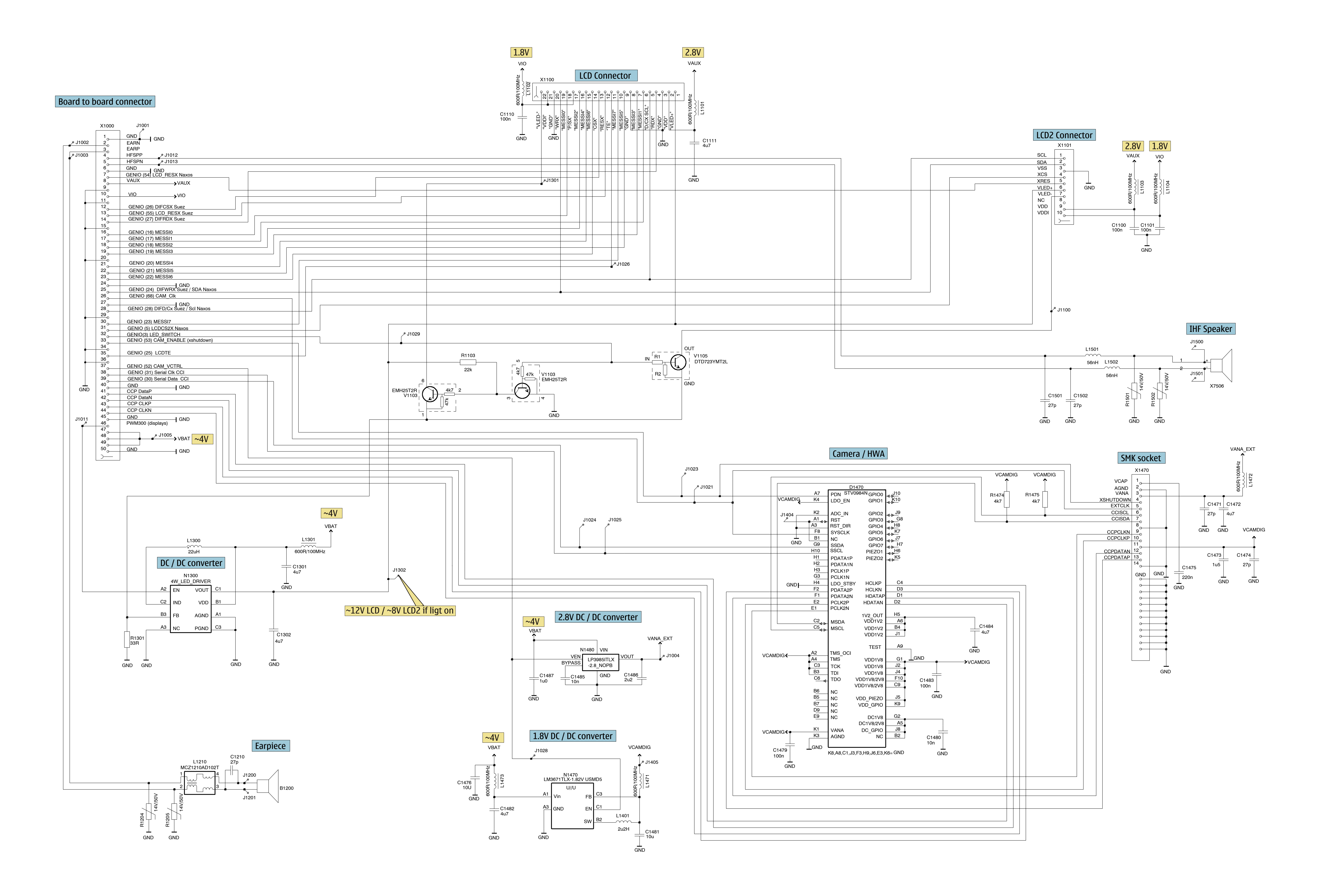

Microphone
Battery connector
FM Radio, UI
System connector
UI
Vibra
RETU
~4V
1.35V
2.8V
Backup battery
TAHVO, AHNE
Sleepclock oscillator
RAPGSM
4.7V if RF active
Depends on SIM 1.8V/3V
1.8V
2.5V
TAHVO, System conn.
VCTCXO
AHNE
SIM
4V
Power / End key
TAHVO, RAPGSM

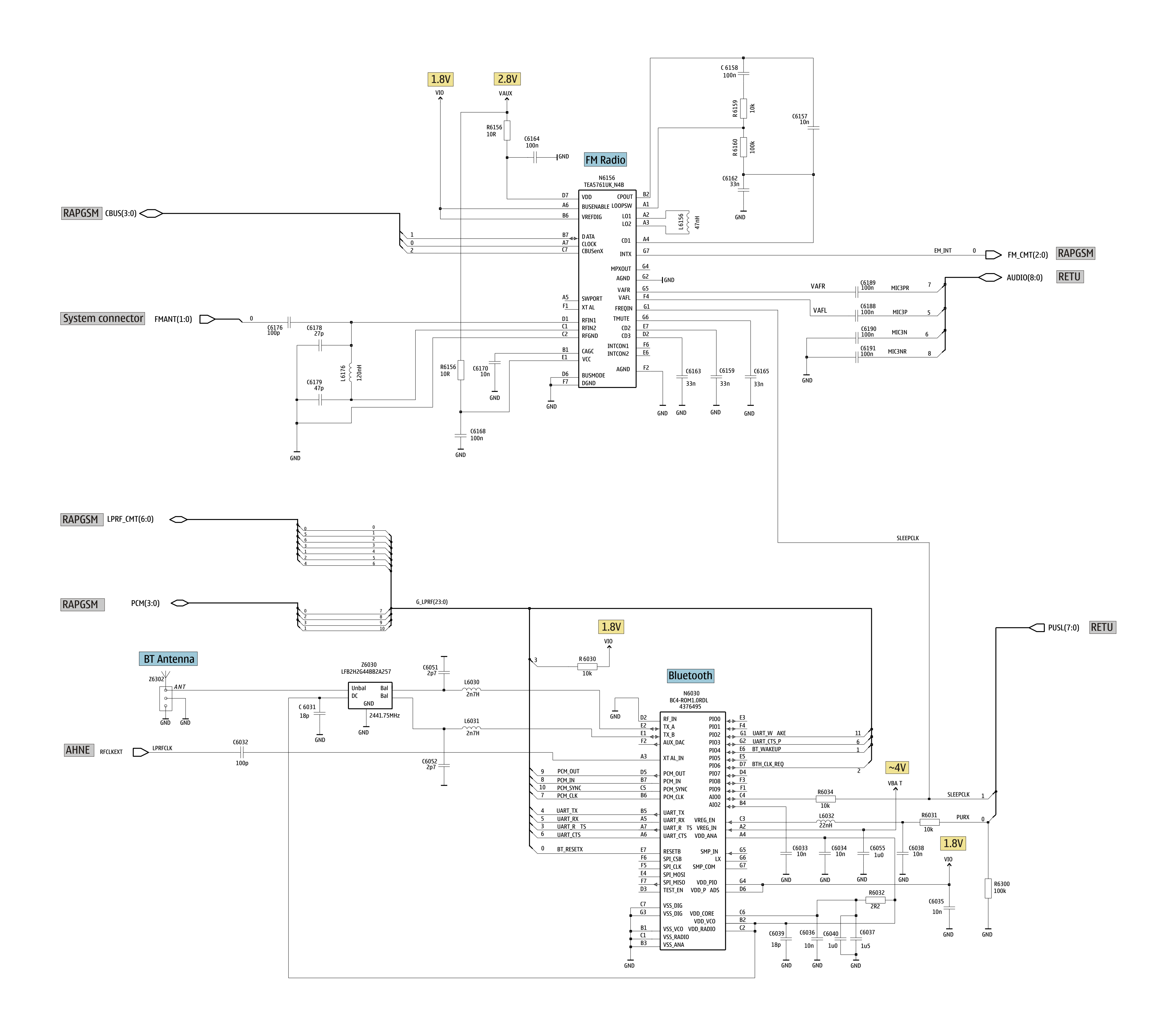


Flash interface
J2060
Local mode = 1.4V
~4V
TAHVO
Charger plug
RETU, System connector
1.8V
RAPGSM
RETU
2.5V if accessory connected
5V if USB connected
Current gauge
Power supply for keyboard light
14V if lights on
UI
LED Driver

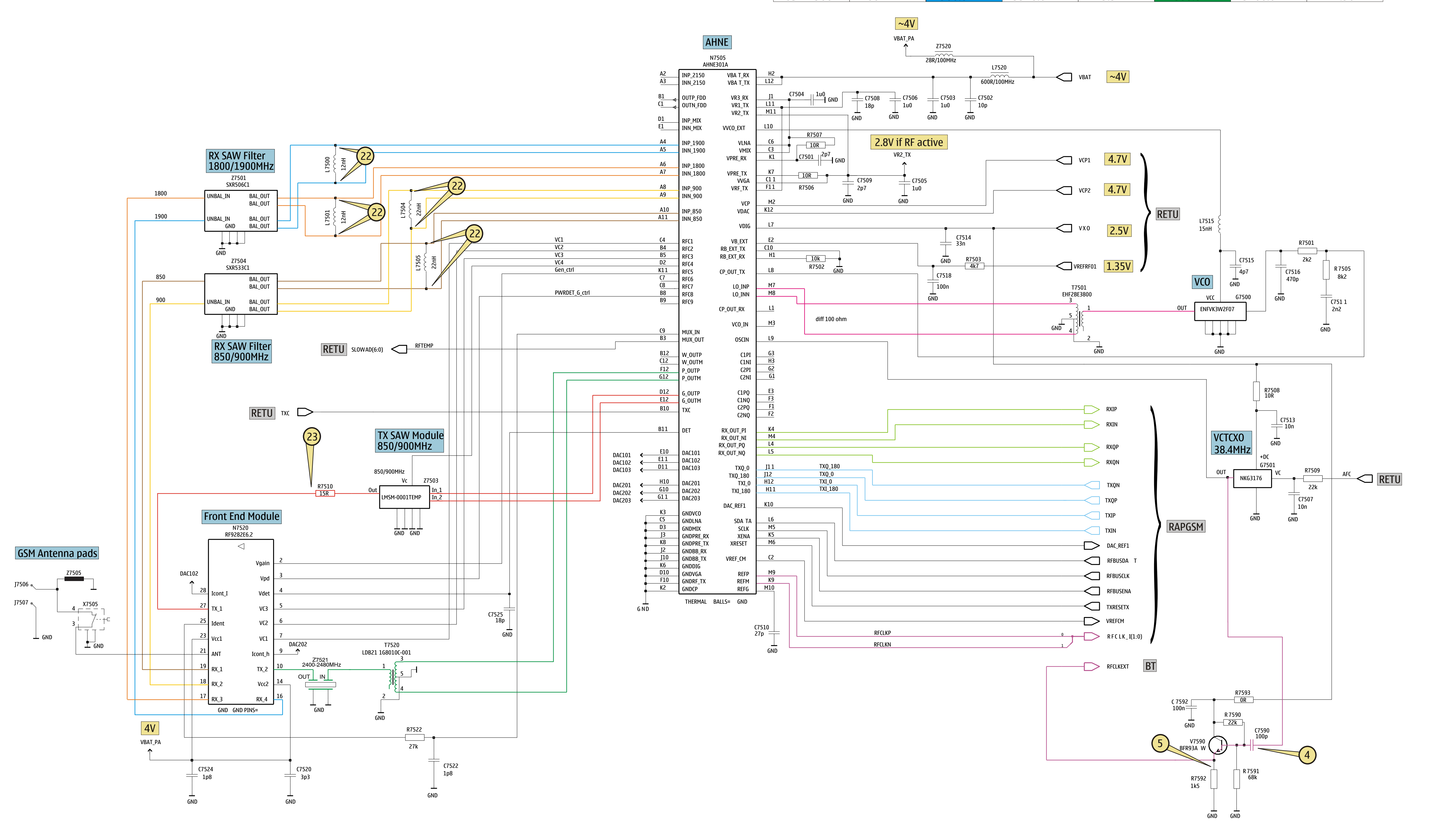

RAPGSM
AHNE
TAHVO, FM Radio, BT, RETU
AHNE
AHNE
RETU
RETU, TAHVO, FM radio
RETU
RETU
BT
TAHVO
RETU
TAHVO, RETU
Local mode = 1.4V
Local mode = 1.4V
1.8V
1.8V
Local mode = 1.4V
1.8V
1.8V
UI
UI
UI
BT
UI
Micro SD card reader
2.8V
2.8V
1.8V
1.8V
1.8V
1.8V
~4V
1.8V
2.8V
Hall sensor
2.8V
1.8V
1.8V
Infrared
~4V
2.8V
UI
FM radio
UI
Combo memory
1.8V
Local mode = 1.4V
1.8V
1.8V
R3002 for DDR SDRAM
Replace with 0R when SDRAM is used

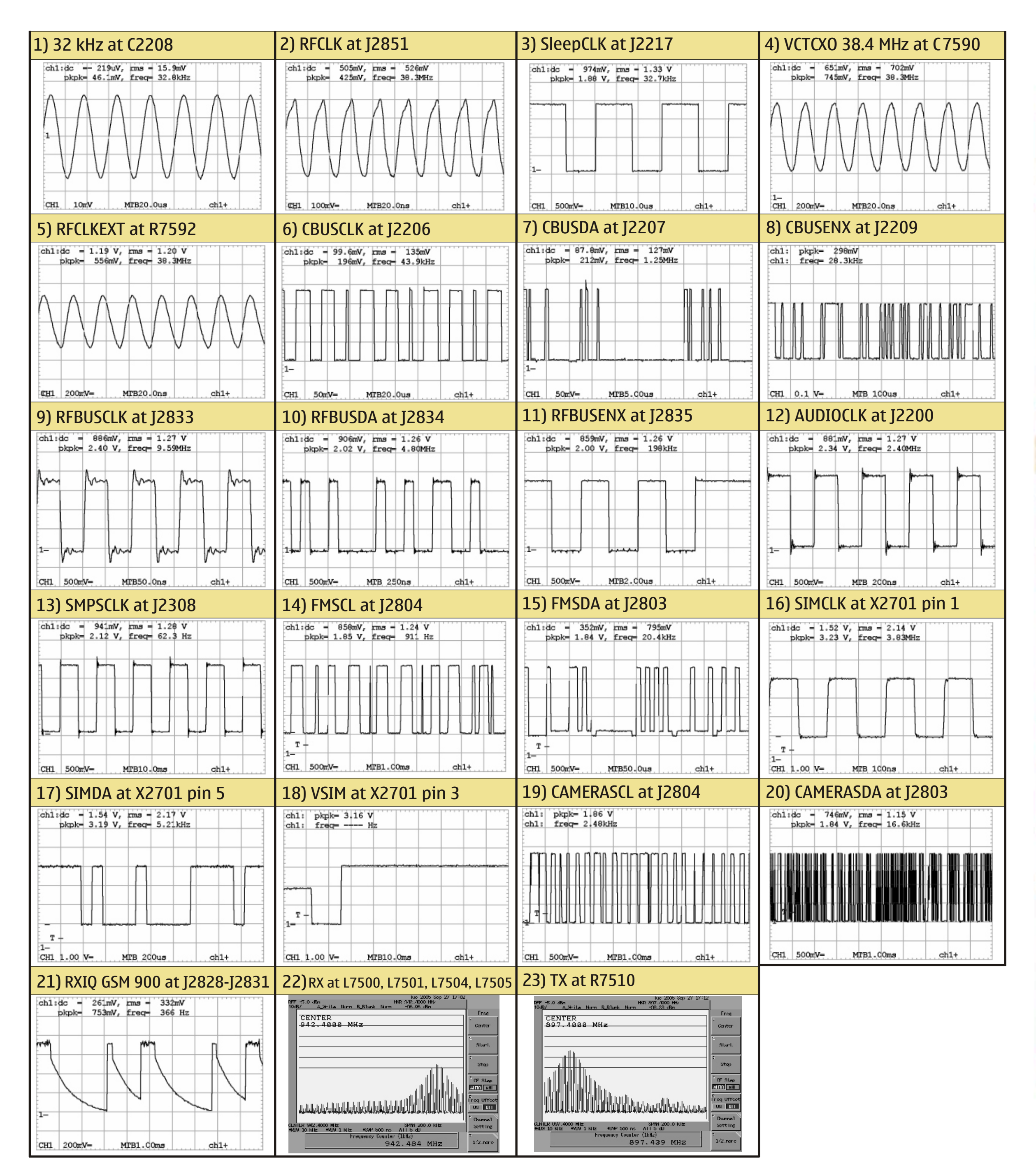

Keyboard
Keyboard LED's
0.5V if lights on
14V if lights on
Volume keys
Keyboard EMI Filter
Display EMI Filter
Display EMI Filter
Board to Board connector
RAPGSM
RAPGSM
RAPGSM
TAHVO
RAPGSM
RETU
RETU
RAPGSM
RAPGSM
1.8V
2.8V
4V


1.8V
VIO
2.8V
VAUX
LCD Connector
X1100
Board to board connector
X1000
LCD2 Connector
X1101
2.8V
1.8V
IHF Speaker
J1500
J1501
X7506
V1105
DTD723YMT2L
R1103
22k
V1103
EMH25T2R
~4V
VBAT
Camera / HWA
D1470
STV0984N
SMK socket
X1470
VANA_EXT
~4V
VBAT
L1300
22uH
L1301
600R/100MHz
DC / DC converter
N1300
4W_LED_DRIVER
J1302
~12V LCD / ~8V LCD2 if ligt on
~4V
2.8V DC / DC converter
N1480
LP3985ITLX
-2.8_NOPB
~4V
1.8V DC / DC converter
N1470
LM3671TLX-1.82V USMD5
Earpiece
L1210
MCZ1210AD102T
B1200


1.8V
VIO
2.8V
VAUX
FM Radio
N6156
TEA5761UK_N4B
RAPGSM
CBUS(3:0)
FM_CMT(2:0)
RAPGSM
AUDIO(8:0)
RETU
System connector
FMANT(1:0)
VAFR
VAFL
MIC3PR
MIC3P
MIC3N
MIC3NR
SLEEPCLK
RAPGSM
LPRF_CMT(6:0)
RAPGSM
PCM(3:0)
G_LPRF(23:0)
1.8V
VIO
PUSL(7:0)
RETU
BT Antenna
Z6030
LFB2H2G44BB2A257
Bluetooth
N6030
BC4-ROM1.0RDL
4376495
AHNE
RFCLKEXT
LPRFCLK
~4V
VBAT
1.8V
VIO
PURX

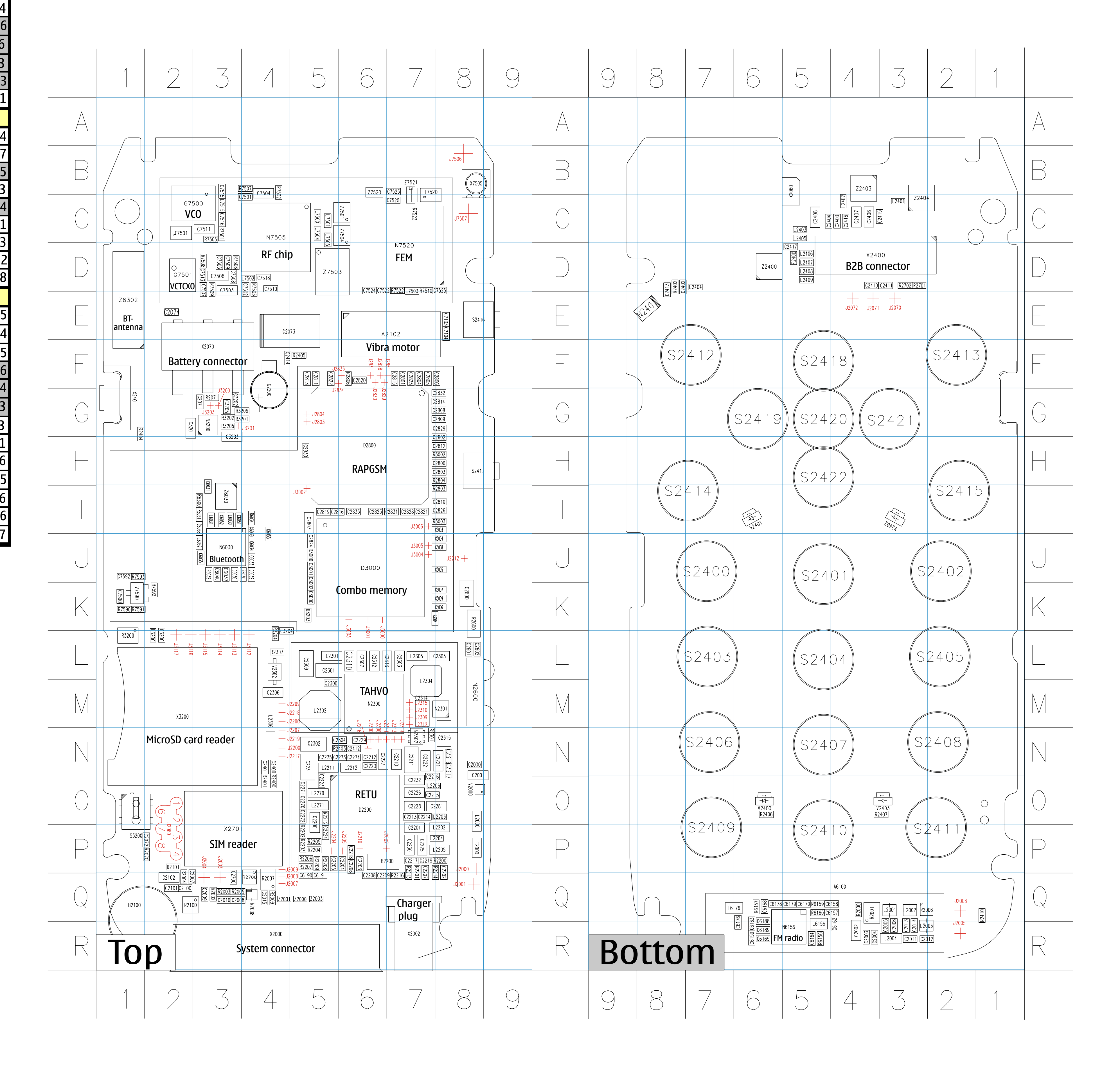
| Band | Channel | RX | VCO/RX | VC/RX | TX | VCO/TX | VC/TX |
|---|---|---|---|---|---|---|---|
| GSM 850 | 190 | 881.6MHz | 3526.4MHz | ~1.8V | 836.6MHz | 3346.4MHz | ~1.5V |
| GSM 900 | 37 | 942.4MHz | 3769.6MHz | ~2.73V | 897.4MHz | 3589.6MHz | ~1.99V |
| GSM 1800 | 700 | 1842.8MHz | 3685.6MHz | ~2.39V | 1747.8MHz | 3495.6MHz | ~1.60V |
| GSM 1900 | 661 | 1960.0MHz | 3920.0MHz | ~3.31V | 1880.0MHz | 3760.0MHz | ~2.96V |

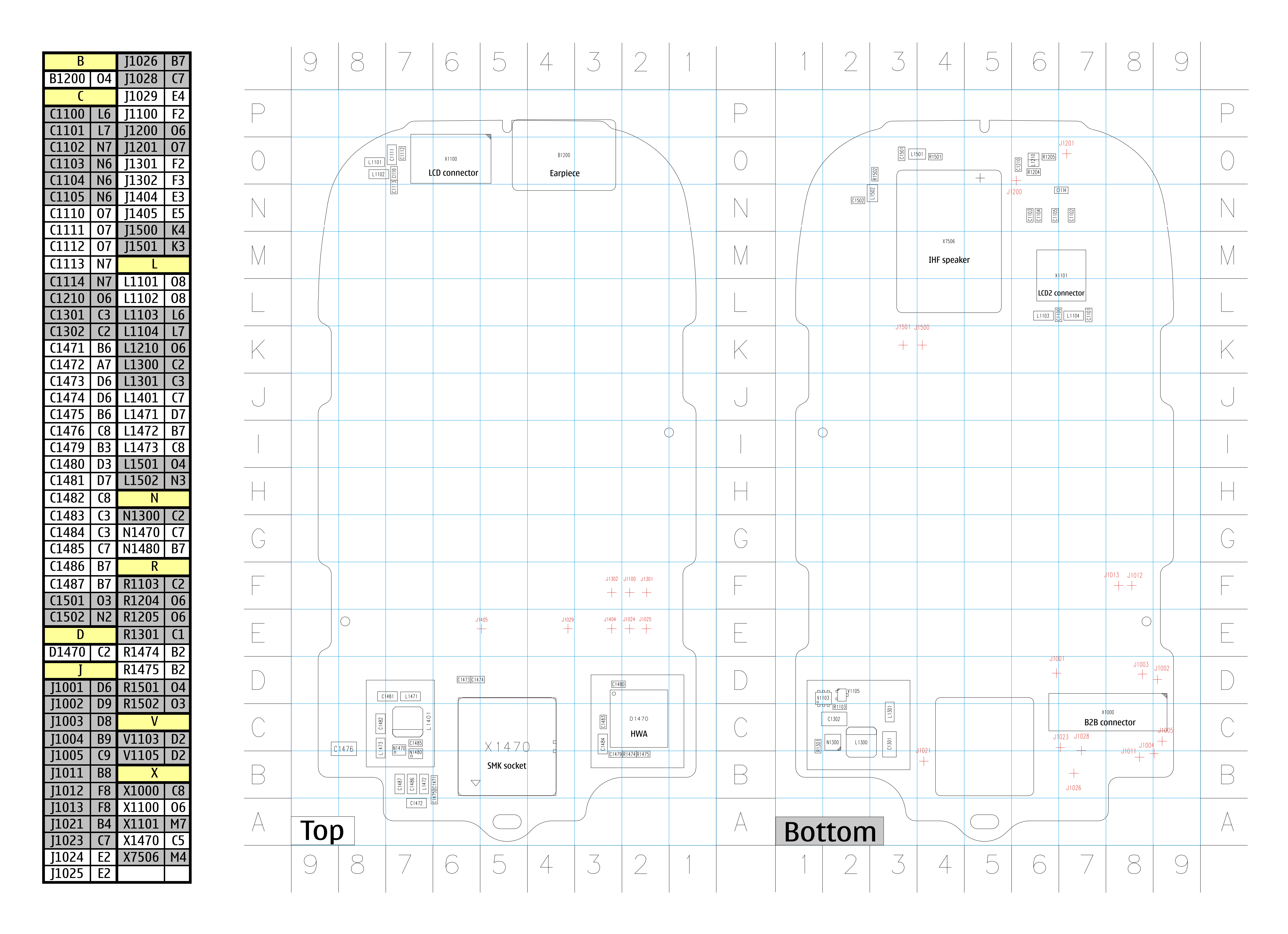





VBAT_PA 4V
VREF 1.35V
VBAT 4V
VMMC 2.8V
VOUT 2.5V
VBUS 5V
VLEDOUT1 14V
VSIM1 1.8V/3V
VCORE 1.4V
VRCP1 4.7V
VAUX 2.8V
VRCP2 4.7V
VIO 1.8V
VR1 2.5V
VRFC 1.8V
VDRAM 1.8V
VANA 2.8V

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | | C2231 | N5 | C2815 | F7 | C6191 | Q5 | J2219 | N4 | L2404 | D7 | R2307 | L4 | V2000 | O8 |
| B2100 | Q1 | C2232 | O7 | C2816 | I5 | C7501 | C4 | J2300 | N6 | L2405 | C5 | R2400 | O4 | V2302 | L4 |
| B2200 | P6 | C2270 | O5 | C2819 | I5 | C7502 | D4 | J2308 | N6 | L2406 | D5 | R2401 | O4 | V2400 | O6 |
| C | | C2271 | O5 | C2820 | F6 | C7503 | D3 | J2309 | M7 | L2407 | D5 | R2402 | D8 | V2401 | I6 |
| C2000 | N8 | C2272 | O5 | C2821 | I7 | C7504 | B4 | J2310 | M7 | L2408 | D5 | R2403 | N6 | V2402 | I3 |
| C2001 | N8 | C2273 | N6 | C2822 | F5 | C7505 | D3 | J2311 | N6 | L2409 | D5 | R2404 | G1 | V2403 | O3 |
| C2002 | R4 | C2274 | N6 | C2823 | I6 | C7506 | D3 | J2312 | M7 | L3200 | L2 | R2405 | F5 | V7590 | K1 |
| C2003 | R4 | C2275 | N5 | C2824 | J5 | C7507 | D3 | J2313 | N7 | L6030 | I3 | R2406 | O6 | X | |
| C2004 | R4 | C2281 | O8 | C2825 | F7 | C7508 | D3 | J2314 | N7 | L6031 | I3 | R2407 | O3 | X2000 | R4 |
| C2005 | R3 | C2300 | M5 | C2826 | I8 | C7509 | D3 | J2315 | M7 | L6032 | J3 | R2410 | Q1 | X2002 | R7 |
| C2006 | R3 | C2301 | L5 | C2828 | I7 | C7510 | D4 | J2803 | G5 | L6156 | R5 | R2600 | K8 | X2060 | B5 |
| C2007 | Q2 | C2302 | N5 | C2829 | G8 | C7511 | C3 | J2804 | G5 | L6176 | Q6 | R2700 | Q4 | X2070 | F3 |
| C2008 | Q3 | C2303 | L7 | C2830 | H5 | C7513 | D3 | J2828 | F6 | L7500 | C5 | R2701 | D3 | X2400 | D4 |
| C2009 | Q3 | C2304 | N6 | C2831 | I7 | C7515 | B3 | J2829 | F6 | L7501 | C5 | R2702 | D3 | X2401 | G1 |
| C2010 | Q3 | C2305 | L8 | C2832 | G8 | C7516 | C3 | J2830 | F6 | L7502 | D4 | R2803 | I8 | X2701 | P3 |
| C2011 | R3 | C2306 | M4 | C2833 | I6 | C7518 | D4 | J2831 | F6 | L7503 | D7 | R2804 | H8 | X3200 | M2 |
| C2012 | R3 | C2307 | L6 | C3000 | K5 | C7520 | C7 | J2833 | F6 | L7504 | C5 | R2806 | F6 | X7505 | B8 |
| C2013 | R3 | C2309 | L5 | C3001 | J5 | C7522 | D6 | J2834 | F6 | L7505 | C5 | R3000 | J5 | Z | |
| C2014 | R3 | C2310 | L6 | C3002 | K5 | C7523 | B7 | J2851 | F7 | L7515 | C3 | R3002 | H8 | Z2000 | Q5 |
| C2015 | Q4 | C2312 | L6 | C3003 | I8 | C7524 | D6 | J3000 | K6 | N | | R3003 | I8 | Z2001 | Q4 |
| C2071 | G3 | C2313 | L7 | C3004 | J8 | C7525 | D8 | J3001 | K6 | N2300 | M6 | R3004 | K7 | Z2003 | Q5 |
| C2072 | P2 | C2314 | M7 | C3005 | J8 | C7590 | K1 | J3002 | I5 | N2301 | M8 | R3200 | L1 | Z2400 | D6 |
| C2073 | E5 | C2315 | N8 | C3006 | K8 | C7592 | J1 | J3003 | K6 | N2302 | N7 | R3201 | G4 | Z2403 | B4 |
| C2074 | E2 | C2316 | N8 | C3007 | K8 | D | | J3004 | J7 | N2401 | E8 | R3202 | G3 | Z2404 | C3 |
| C2100 | Q2 | C2317 | N8 | C3008 | J8 | D2200 | O6 | J3005 | J7 | N2600 | M8 | R3203 | K5 | Z6030 | I3 |
| C2101 | Q2 | C2400 | N4 | C3009 | K8 | D2800 | H6 | J3006 | I7 | N3200 | G3 | R3204 | L4 | Z6302 | E1 |
| C2102 | Q2 | C2401 | N4 | C3200 | L2 | D3000 | J6 | J3112 | L4 | N6030 | J3 | R3205 | G3 | Z7501 | C6 |
| C2103 | E8 | C2402 | D8 | C3201 | G2 | F | | J3113 | L3 | N6156 | R5 | R3206 | G4 | Z7503 | D5 |
| C2104 | E8 | C2403 | C4 | C3202 | G3 | F2000 | P8 | J3114 | L3 | N7505 | C4 | R6030 | J4 | Z7504 | C6 |
| C2200 | O5 | C2404 | C5 | C3203 | H3 | F2400 | D5 | J3115 | L3 | N7520 | D7 | R6031 | I3 | Z7520 | B6 |
| C2201 | P7 | C2406 | C4 | C3204 | L4 | G | | J3116 | L2 | R | | R6032 | J3 | Z7521 | C7 |
| C2202 | P8 | C2407 | C4 | C3205 | G3 | G2200 | G4 | J3117 | L2 | R2000 | Q4 | R6034 | I4 | | |
| C2203 | P6 | C2408 | C5 | C6031 | I3 | G7500 | C3 | J3200 | G3 | R2001 | Q4 | R6156 | R5 | | |
| C2204 | P6 | C2410 | D4 | C6032 | J4 | G7501 | D2 | J3201 | G3 | R2002 | Q3 | R6157 | Q6 | | |
| C2205 | P5 | C2411 | D3 | C6033 | J4 | J | | J3203 | G3 | R2003 | Q3 | R6159 | Q5 | | |
| C2206 | P6 | C2412 | N6 | C6034 | J4 | J2000 | P8 | J7506 | B8 | R2004 | Q2 | R6160 | Q5 | | |
| C2207 | P7 | C2413 | D8 | C6035 | J3 | J2001 | Q8 | J7507 | C8 | R2005 | Q3 | R6300 | I3 | | |
| C2208 | Q6 | C2414 | F4 | C6036 | J3 | J2002 | P6 | L | | R2006 | Q3 | R7501 | C3 | | |
| C2209 | Q6 | C2415 | C3 | C6037 | J3 | J2003 | Q3 | L2000 | O8 | R2007 | Q4 | R7502 | B4 | | |
| C2210 | N7 | C2416 | C4 | C6038 | I3 | J2004 | Q3 | L2001 | Q3 | R2008 | Q4 | R7503 | D4 | | |
| C2211 | N7 | C2417 | D5 | C6039 | I4 | J2005 | R2 | L2002 | Q3 | R2009 | Q4 | R7505 | C3 | | |
| C2212 | N6 | C2600 | K8 | C6040 | J3 | J2006 | Q2 | L2003 | R3 | R2070 | P2 | R7506 | D3 | | |
| C2213 | O7 | C2601 | L8 | C6051 | I3 | J2007 | Q4 | L2004 | R3 | R2071 | G3 | R7507 | B4 | | |
| C2214 | O7 | C2602 | L8 | C6052 | I3 | J2008 | Q4 | L2202 | P8 | R2100 | Q2 | R7508 | D3 | | |
| C2215 | O7 | C2700 | Q3 | C6055 | J4 | J2009 | P4 | L2203 | O8 | R2101 | P2 | R7509 | D3 | | |
| C2216 | O7 | C2800 | H8 | C6157 | Q4 | J2060 | P2 | L2204 | P8 | R2200 | P8 | R7510 | D7 | | |
| C2217 | P7 | C2801 | F7 | C6158 | Q4 | J2070 | E3 | L2205 | P8 | R2201 | P7 | R7522 | D7 | | |
| C2218 | P6 | C2802 | H8 | C6159 | R6 | J2071 | E4 | L2206 | O7 | R2202 | P5 | R7523 | C7 | | |
| C2219 | P7 | C2803 | H8 | C6162 | R4 | J2072 | E4 | L2211 | N5 | R2203 | P5 | R7590 | K1 | | |
| C2220 | N6 | C2804 | F7 | C6163 | R6 | J2200 | N4 | L2212 | N6 | R2204 | P5 | R7591 | K1 | | |
| C2221 | N8 | C2805 | F7 | C6164 | R5 | J2204 | P5 | L2270 | O5 | R2205 | P5 | R7592 | K2 | | |
| C2222 | N7 | C2806 | F8 | C6165 | R6 | J2205 | P6 | L2271 | O5 | R2206 | P5 | R7593 | J1 | | |
| C2223 | O5 | C2807 | I5 | C6168 | Q6 | J2206 | M4 | L2301 | L5 | R2207 | P5 | S | | | |
| C2224 | P5 | C2808 | G8 | C6170 | Q5 | J2207 | N4 | L2302 | M5 | R2208 | P5 | S2416 | E8 | | |
| C2225 | P7 | C2809 | G8 | C6176 | R6 | J2209 | M4 | L2304 | M7 | R2209 | P5 | S2417 | H8 | | |
| C2226 | O7 | C2810 | I8 | C6178 | Q6 | J2210 | P6 | L2305 | L7 | R2212 | O5 | S3200 | O1 | | |
| C2227 | N6 | C2811 | F5 | C6179 | Q5 | J2212 | J8 | L2306 | M4 | R2213 | P7 | T | | | |
| C2228 | O7 | C2812 | H8 | C6188 | Q6 | J2216 | N6 | L2401 | C3 | R2214 | P8 | T7501 | C2 | | |
| C2229 | N6 | C2813 | F5 | C6189 | R6 | J2217 | N4 | L2402 | C4 | R2216 | Q7 | T7520 | C7 | | |
| C2230 | P7 | C2814 | G8 | C6190 | Q5 | J2218 | M4 | L2403 | C5 | R2301 | N7 | V | | | |





| | | | |
|---|---|---|---|
| B | | J1026 | B7 |
| B1200 | O4 | J1028 | C7 |
| C | | J1029 | E4 |
| C1100 | L6 | J1100 | F2 |
| C1101 | L7 | J1200 | O6 |
| C1102 | N7 | J1201 | O7 |
| C1103 | N6 | J1301 | F2 |
| C1104 | N6 | J1302 | F3 |
| C1105 | N6 | J1404 | E3 |
| C1110 | O7 | J1405 | E5 |
| C1111 | O7 | J1500 | K4 |
| C1112 | O7 | J1501 | K3 |
| C1113 | N7 | L | |
| C1114 | N7 | L1101 | O8 |
| C1210 | O6 | L1102 | O8 |
| C1301 | C3 | L1103 | L6 |
| C1302 | C2 | L1104 | L7 |
| C1471 | B6 | L1210 | O6 |
| C1472 | A7 | L1300 | C2 |
| C1473 | D6 | L1301 | C3 |
| C1474 | D6 | L1401 | C7 |
| C1475 | B6 | L1471 | D7 |
| C1476 | C8 | L1472 | B7 |
| C1479 | B3 | L1473 | C8 |
| C1480 | D3 | L1501 | O4 |
| C1481 | D7 | L1502 | N3 |
| C1482 | C8 | N | |
| C1483 | C3 | N1300 | C2 |
| C1484 | C3 | N1470 | C7 |
| C1485 | C7 | N1480 | B7 |
| C1486 | B7 | R | |
| C1487 | B7 | R1103 | C2 |
| C1501 | O3 | R1204 | O6 |
| C1502 | N2 | R1205 | O6 |
| D | | R1301 | C1 |
| D1470 | C2 | R1474 | B2 |
| J | | R1475 | B2 |
| J1001 | D6 | R1501 | O4 |
| J1002 | D9 | R1502 | O3 |
| J1003 | D8 | V | |
| J1004 | B9 | V1103 | D2 |
| J1005 | C9 | V1105 | D2 |
| J1011 | B8 | X | |
| J1012 | F8 | X1000 | C8 |
| J1013 | F8 | X1100 | O6 |
| J1021 | B4 | X1101 | M7 |
| J1023 | C7 | X1470 | C5 |
| J1024 | E2 | X7506 | M4 |
| J1025 | E2 | | |